DPD COPY OF

LOCKHEED AIRCRAFT CORP.	ENGINEERING STUDY ☐ CHANGE PROPOSAL ☒	LAC-98
DATE 4-3-61	AFFECTS: WSPO ☒	PROJECT ☒

NAME OF MAJOR COMPONENT	PART OR LOWEST SUBASSEMBLY	PART NO. & MODEL OR TYPE
AIRPLANE	FUEL PUMP	

TITLE OF PROPOSAL : FUEL SYSTEM REVISION

NATURE OF PROPOSAL :

SEE PAGE 2

REASON FOR PROPOSAL :

1. To improve reliability of the existing hydraulically driven fuel boost pump by replacing the present chip catcher with a 200 mesh strainer.

2. To reduce the possibility of engine flameout due to loss of fuel pressure particularly at high altitudes by providing an electrically driven fuel boost pump as backup for the existing hyd. driven pump. The new pump will be controlled by the pilot and is to be turned on for all operations above 50M ft.

ES	ESTIMATED COST AND TIME INVOLVED :	- - -
	ADDITIONAL FUNDING REQUIRED :	- - -
CP	ESTIMATED COST FOR KITS OR PARTS :	See Pages 3 & 4
	ADDITIONAL FUNDING REQUIRED :	None

ITEMS AFFECTED BY PROPOSAL :

SAFETY	MISSION EFFEC-TIVENESS	PERFORM-ANCE	OPERATING PROCEDURE	INTER-CHANGE-ABILITY	WEIGHT OR WEIGHT & BALANCE	TOOLS & SUPPORT EQUIPMENT	MAINTE-NANCE PROCEDURE	SERVICE LIFE	FLIGHT MANUAL	MAINTE-NANCE MANUAL
☐	☒	☒	☒	☐	☒	☐	☒	☐	☒	☒

EST. MAN/HRS. REQ'D. TO ACCOMPLISH CHANGE IN FIELD

SOURCE OF PARTS FOR KIT	AVAILABILITY - - - WEEKS AFTER APPROVAL
LAC	See Page 4

DISPOSITION OF SPARES AFFECTED The following will no longer be used:
H-80 Chip Catcher; Revere Float Switch P/N F8300-8 (F8300-26 on U-2C a/c) STAT

INITIATED BY :	APPROVED : WSPO
LAC	

4/10/61

NATURE OF PROPOSAL:

Design Study

1. Modify the fuel system in one aircraft (692/359) by installing an electrically driven fuel boost pump with related plumbing, wiring and cockpit controls. This has been accomplished as Contract SP-1918 Product Improvement.
2. Performance data to be obtained from operation of the aircraft at LAFB over a significant period (approximately 3 months).
3. This test installation will be replaced by the standard installation (outlined below) at a convenient time at the conclusion of operational tests.

Change Proposal

1. Modify the fuel system on all aircraft (except serials 342 & 358)* as follows:

   a. Replace the existing Chip Catcher (P/N H-80) with a 200 mesh strainer.

   b. Install a submerged A.C. electric motor driven boost pump in the right-hand sump tank. Install related plumbing to connect pump in parallel with the existing boost pump and bypass line. This includes the addition of two new check valves; one in each boost pump fuel out line, and a pressure switch between the check valve and the new pump (see attached diagram).

   c. Replace the existing sump tank overflow light in the cockpit with a fuel pressure indicator light (elec. boost pump only) and install pilot's control switch. Install power relay on Q-bay "CB & Relay" panel and install system wiring.

   d. On all aircraft remove the overflow float switch from the sump tanks.

   * NOTE: These fuel system modifications previously authorized for incorporation on a/c serials 342 and 358 in conjunction with In-Flight Refueling provisions under approved ECP No. LAC-101.

2. Prepare and issue a Service Bulletin.
3. Fabricate appropriate aircraft provisioning kits.
4. Installation of kits can be accomplished in the field. Modification of sump tanks to incorporate pump flange must be done at the factory on a turn around basis unless the entire program is scheduled for IRAN.

ESTIMATED COST FOR KITS OR PARTS:

STAT

Customer No. 1

STAT Six (6)* kits @ [ ] kit (SP-1917) [ ]

STAT Modification of R/H Sump Tank (6 ea.) (SP-1918) [ ] Tank

RECOMMENDED SPARES (SP-1917)

STAT

Part No.	Description	Qty.	Unit Price	Total Price
301385	Strainer Assy.	2		
8501-1	Strainer Screen	4		
** 219200	Pump	6		
310900	Check Valve	5		
M410G-10A-42	Press. Switch	10		
AV16A1185	Valve	5		
475C-58NW	Valve	5		

TOTAL PRICE Customer #1 [ ]

STAT

* Two kits to be manufactured and installed under the Aerial Refueling System Program.

** Quantity factored by four (4) spare pumps ordered on P.R. 61-147 for ECP-101 Aerial Refueling System.

Customer to obtain spares for the following from AF assets:

MS 35058-22 Switch
AN 3312-1 Relay

Cost Recap - Customer #1

Total Cost SP-1917
Total Cost SP-1918

GRAND TOTAL [ ]

STAT

ESTIMATED COST FOR KITS OR PARTS:

STAT

Customer No. 2

STAT

Thirty-one (31) kits @ [redacted] kit (SP-1917)

[redacted]

Modification of R/H Sump Tank (31 ea.) (SP-1918)
[redacted] tank

STAT

RECOMMENDED SPARES (SP-1917)

STAT

Part No.	Description	Qty.	Unit Price	Total Price
301385	Strainer Assy.	4		
8501-1	Strainer Screen	10		
219200	Pump	16		
310900	Check Valve	12		
M410G-10A-42	Press. Switch	24		
AV16A1185	Valve	12		
475C-58NW	Valve	12		

[redacted]

TOTAL PRICE Customer #2 [redacted]

Customer to obtain spares for the following from AF assets:

STAT

MS 35058-22 Switch
AN 3312-1 Relay

Cost Recap - Customer #2

Total Cost SP-1917
Total Cost SP-1918

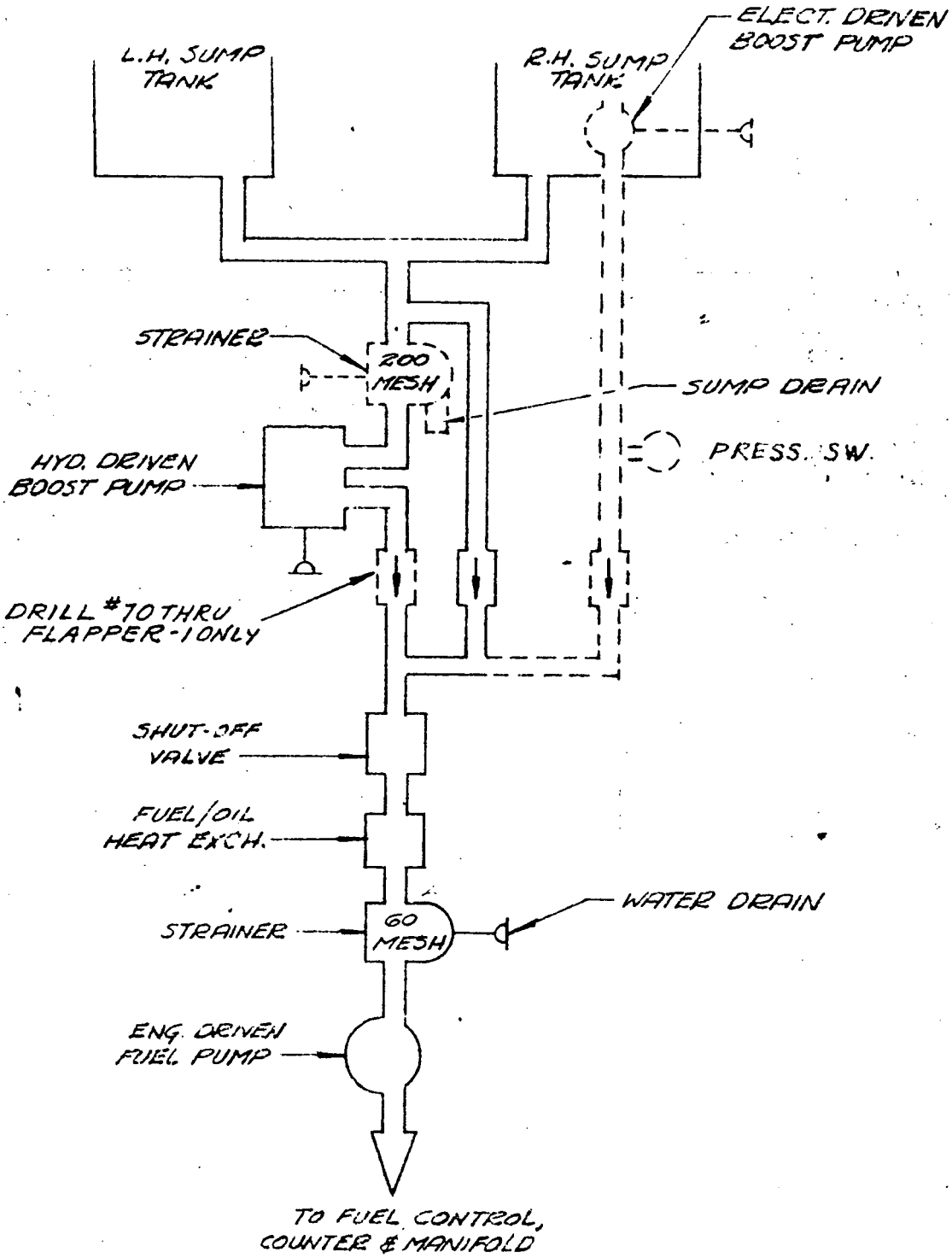
GRAND TOTAL [redacted]

STAT

SCHEDULE (Both Customers)

180 days from date of approval

Attachment to LAC-98
FUEL SYSTEM REVISION



FUEL SYSTEM DIAGRAM

SHOWING ADDED ELECTRICALLY DRIVEN SUBMERGED BOOST PUMP & 200 MESH STRAINER

— EXISTING SYSTEM

— ADDED COMPONENTS